

THE MASSACHUSETTS TEACHER.

DECEMBER, 1871.

Vol. XXIV.

JOHN KNEELAND, Editor.

No. 12.

THE FUNCTION OF PLEASURE IN EDUCATION.

[A paper read before the Norfolk County Association at its last meeting, by J. B. Gregg. The introductory part, though valuable, has been omitted for want of space.]

WE recognize readily enough that scholars make most progress in those pursuits in which they are most interested; but we have not yet attained to a recognition of the converse of this proposition, which I am inclined to think contains no less truth, viz., that any education is radically vicious just in so far as it does not rouse a healthy pleasurable excitement in the pupil. I might appeal for confirmation of my theory to the still but strong logic of the words themselves. For the very terms "education" and "excitement" are nearly synonymous. Education means to "lead forth," to bring out the latent powers of the mind, and *excitement* means only to *call forth*, to arouse what is dormant there. Far oftener than we think, I imagine, the repugnance to this or that study which we call dulness is more the fault of the teacher or the methods of instruction than innate in the pupil. Fellenberg, a distinguished German writer on education, says, "Experience has taught me that *indolence* in young persons is so directly opposed to their natural disposition to activity, that, unless it is the consequence of bad education, it is almost invariably connected with some constitutional defect. And the experienced Professor Pillans, of Edinburgh, declares that "when young people are taught as they

ought to be, they are quite as happy in school as at play; seldom less delighted, nay often more, with the well-educated exercise of their mental energies than with that of their muscular powers." There are always of course not a few children who are by nature slenderly endowed with brain, who blunder and stumble along the highways of learning, and who at their best can exhibit but a sorry pace. But there is also the much larger class with which every teacher is familiar, who are bright and keen-witted and acquisitive everywhere but in the school-room; there, a sudden blight seems to descend upon them; the eyes that are so wide open everywhere else, now become heavy and listless. They are uninterested, careless, stupid even. Where does the fault lie, with us or them? In their natures or our methods? I believe we may confidently seek the answer to our question in the general principle that has been already formulated. "Under normal conditions, healthy action is pleasurable, while action which gives pain is not healthful." If, then, a boy whom outside the sphere of school we see to be clear-headed and intelligent, is dull and indifferent in school, let us scan with a most careful and critical eye our methods; for it is more than probable that the fault lies there.

It is worth observing here, that men who have so entered into their studies as to make themselves authorities in the branch to which they have devoted themselves find their work no longer a toil but a pastime. Any one who has heard Agassiz lecture on Fishes, or Gray on Botany, can have no doubt but that the chosen work of those men, extremely arduous and toilsome as it often is in its details, never ceases to them to be the most delightful play. Such men never grow old. They often keep singularly sweet and child-like faces; and whether or not the face shows youth, the mind always does in retaining that most characteristic trait of the unspoiled child, an ardent thirst for knowledge, and an ability to turn all work into play. For there is not usually so much difference between work and play as we sometimes confusedly think. The hardest work is the best play and the best play is the hardest work. Who doubts that when Newton, absorbed in his investigations in the higher Mathematics, forgot to sleep and eat; or Socrates, lost in thought, stood for a day and a night without changing his attitude,

— who doubts but that they were enjoying themselves intensely, or on the other hand that a champion base-ball club *work* fearfully hard when on a hot July day they *play*?

Prof. Seeley, in one of his essays, puts the real distinction between play and work very well. "There is a stumbling-block," he says, "in the trivial associations that are connected with the word *play*. But play is not necessarily merry, as, for example, cricket and chess. All the better sort of games, all those which really refresh and reinvigorate, are of the strenuous, intense kind. They relax some faculties, it is true; but by straining others. It differs from work only in that the exertion used in play is for its own sake; while that used in work is for some ulterior object." We elders are like the member of the Chinese Embassy, who, when at a reception ball, the dizzy, perspiring couples were still whirling furiously by him at three o'clock in the morning, said, with an air of mildly contemptuous surprise, "At home, we *hire* this *work* done." So in our adult years we languidly wonder what amusement children can find in the terrifically hard work that they will undergo and christen by the name of play. Ah, my friends, once neither burning heat nor freezing cold nor tired limbs could keep us from our pleasure. It is the sordid aims and the hard necessities of life that take the pleasure out of work, and make it no longer play with a nobler aim, but mere drudgery. The millennium has not come yet, but I heartily believe that as it dawns, the old curse laid upon labor will flee away, and that while the work will still remain to be done, it will no longer be grievous, because its ends and its conditions will be changed, and it will become universally what it now is occasionally,—the most glorious play. When that day comes we will change the good old pedagogical song, —

" All Work and no Play
Makes Jack a dull boy,"

for one yet better, —

" No Work and all *Play*
Makes Jack a bright boy."

For then there will no longer remain the vestige of a doubt but that, as the final test by which to judge any plan of culture, should

come the question: "Does it create a pleasurable excitement in the pupils?" As has been well said, "The child's instincts are more trustworthy than our reasonings," and when we are wise enough we shall learn to confide in them absolutely. We already base our actions as teachers very largely upon these instincts; because, if we did not, education would be manifestly impossible. We do not attempt to teach Euclid, or metaphysics, in our primary schools, because we know that the child's mind would reject such pabulum as quickly as the infant's stomach would reject food fit only for adults. But we do still cling persistently to a great many details of practice which are demonstrably wrong, inasmuch as they violate the healthy instincts of nature. It cannot be repeated too often, that the surest test of whether a given subject is being taught rightly, or whether it is fit to be taught at all, is the appetite for it among the pupils. If they receive it with eagerness, it will be recognized that "the unfolding mind has become fit to assimilate it, and needs it for purposes of growth; on the other hand, if disgust is felt toward such information, it is a sign either that it is prematurely presented, or that it is presented in an indigestible form."

But I hear the question asked, Are children then to be *narrowed* down to merely the studies they *like*? I reply they are not to be *narrowed down* but to be *expanded* to just the studies they *like*. For if we were to give way to their desires, the field of their activity would certainly not be contracted, but vastly widened. The average child is interested in everything that comes within the grasp of his faculties. There is not a field of investigation which he is tall enough to catch a glimpse of, but that he is eager to be over the fence and into it, chasing the butterflies and fishing the streams. The trouble is, that half the time the fence is one of those sheer boards, — ones such as we all remember when we were about *so* high, that with all the "boosting" good-natured comrades can give him, he can't quite manage, — and so he falls back disgusted and hopeless. But let a kind, big friend now come along and — not put him over, but just lift him up so that he can make his own little legs fly, and struggle up for himself, and how quick he'll be over into that field, and how grateful he'll be! How many

scholars who were dull under Smith or Mitchell, have you seen awake into newness of life under Guyot? How often does contact with a new teacher change entirely the reputation of a scholar! Look back upon your own lives, and tell me if you do not remember some longings which, not ministered to at all or not aright, have either died away or been transformed into distastes. For my own part, I remember that though I could never whittle out an arrow for my bow, or sharpen a pencil, — I can't do that now, — yet my boyish ambition was to be a carpenter; and that though I was sure beforehand that I was to distinguish myself in my Euclid, I was one of the first to perish on the Pons Asinorum. Be sure that there is no time in life, when the mind is so generous and catholic in its desires for culture, as in childhood — if only it is not thwarted and repulsed. I do not overlook the fact that not a few of our scholars thoroughly hate certain branches. But I maintain that it is an abnormal, not a normal state of the mind, — that it has been brought about by cramping and distorting the faculties of the intellect, by bringing to bear upon those unfortunate individuals methods which, however well suited to others, for them serve only as a mental strait-jacket, creating disgust for the very reason that they prevent exertion, and disable the free, healthful activities of the mind. For children do not hate studies because they are difficult, but because the associations of frequent defeat and disgrace render them sources of pain. God has made us to subdue nature, to put her forces under our feet, — and there is not a being in the world to whom victory is not delightful, and defeat humiliating and offensive. We call life a battle; and from the baby that triumphantly drags its resisting kitten out from under the cricket where it has taken refuge, to Napoleon after Austerlitz, or, let us say, Mr. Gilmore at the Peace Jubilee, we all like success. So long as the human race retains its general combativeness, there is no fear but that this principle will operate healthfully in education as well as in other provinces. The children are few who when they see a chance of whipping, won't want to "go in and win." Only don't cow them before the battle begins! Give them a fair chance, and trust to their native energies for the issue! — I can't resist the temptation to read just here a bit of extremely interesting testi-

mony on the subject from Professor Tyndall. In a lecture on "The Importance of the Study of Physics," he thus writes:—

"One of the duties that fell to my share during the period to which I have referred, was the instruction of a class in mathematics; and I usually found that Euclid and the ancient geometry generally, when addressed to the understanding, formed a very attractive study for youth. But it was my habitual practice to withdraw my boys from the routine of the book, and appeal to their self-power. In the treatment of questions not comprehended in that routine, at first the change from the beaten track usually excited a little aversion. The youth felt like a child amid strangers; but in no single instance have I found this aversion to continue. When utterly disheartened, I have encouraged the boy by that anecdote of Newton, where he attributes the difference between him and other men mainly to his own patience; or of Mirabeau, when he ordered his servant who had stated something to be impossible, never to use that stupid word again. Thus cheered, he has returned to his task with a smile, which perhaps had something of a doubt in it, but which, nevertheless, evinced a resolution to try again. I have seen the boy's eye brighten, and at length with pleasure of which the ecstasy of Archimedes was but a simple expansion, heard him exclaim, 'I have it, sir!' The consciousness of self-power thus awakened was of immense value, and animated by it, the progress of the class was truly astonishing. It was often my custom to give the boys their choice of pursuing their propositions in the book, or of trying their strength at others not to be found there. Never in a single instance have I known the *book* to be chosen. I was ever ready to assist when I deemed help needful; but my offers of assistance were habitually declined. The boys had tasted the sweets of intellectual conquest, and demanded victories of their own. I have seen their diagrams scratched upon the walls, cut into the beams upon the playground, and numberless other illustrations of the living interest they took in the subject. For my own part, as far as experience in teaching goes, I was a new fledgling; I knew nothing of the rules of pedagogics, as the Germans name it; but I adhered to the spirit indicated at the commencement of this discourse, and endeavored to make geometry a

means and not a *branch* of education. The experiment was successful, and some of the most delightful hours of my existence have been spent in marking the vigorous and cheerful expansion of mental power in the manner I have described."

Mr. Tyndall here states very graphically in a word, it seems to me, the radical defect of much of our teaching. "I endeavored," he says, "to make Geometry a *means*, not a *branch* of education." No study should be an end in itself; it should be merely a means to that broad, catholic culture of all the faculties of the mind, every step towards which is marked by an ever-increasing delight. "The Beautiful," says Plato, "inheres in all things, and its perception is the only source of happiness." Here we should find the true end of education, — not to pour miscellaneous information into the mind, but to bring forth and develop the *powers* that belong to it. To make every bodily sense and every mental apprehension quicker and surer cannot fail to be a pleasurable sort of education, because it is simply a deepening and widening and multiplying indefinitely of the channels through which pleasure flows into *us*. It is not the having things that is pleasant, it is the getting them. That was a striking aphorism of Lessing's, when he said, — "Did the Almighty, holding in his right hand *Truth* and in his left *Search after Truth*, deign to tender me the one I might prefer — in all humility, but without hesitation, I should request *Search after Truth*." But what was this save a magnificent embodiment of the same prosaic feeling that makes the old merchant who has retired from business, restless, uneasy, unhappy, because he is no longer busy in acquiring, but inert in possessing? Truly, Nature forces upon us in a thousand ways the conviction that it is the pleasurable *action* of our faculties, not the dross, that chance to acquire for us that is of importance in life.

If you are not giving pleasure, then, in your education, be sure there is something wrong about your method. The trouble probably is that you are putting possession above the power of acquiring. You are exalting the dull, lifeless thing that is known, above the living mind made in God's image that knows. If you are teaching rightly there will be no need of cramming. The average child finds the normal stimulus for the exercise of his mental facul-

ties in the pleasure which the exercise conveys to him. Under proper guidance, he needs no other. When we have occasion to resort to any other, we should cheerfully acknowledge that, however difficult to remedy, the fault — I ought rather, perhaps, in view of the hard necessities that in one form or another constantly encompass us, to say the trouble — lies with ourselves and the system, and not with the pupils. Each year is demonstrating more clearly that in every branch of education there is a method to be discovered which is not only interesting but delightful, and invariably this method is found to be the best.

I have spoken, thus far, in a rather vague and desultory way, of the possibility of a really pleasurable education based upon a healthy obedience to the normal instincts of the human mind. But any system may be judged fairly by its ultimate fruits, and I therefore, in conclusion, beg to suggest as the indubitable fruits of a plan which makes pleasure its basis and test, the following logical results: —

I. *Things learned with interest are better remembered than things learned without interest or with positive disgust.* This is so obvious a fact that I need not enlarge upon it. We give our best attention, adults as well as children, to that which we find most pleasant. What we do not care for, we slight. Is it not natural that what is grasped most firmly should be retained longest?

II. From this follows directly, as effect from cause, the *mental strength developed by the freer and therefore more vigorous and constant play of the mental energies.* Intellectually as well as physically our powers grow strong by continual use; and that system of education must be the best which most entices the pupil to such use of his faculties.

III. *More important still is the prolongation of such activity into after-life which is likely to ensue, if the activity is eminently pleasurable.* It is a sad sight, that which is often witnessed, of a person's education virtually terminating when his school-days are over. There can be no more instructive comment upon the radical vice that must lie concealed somewhere in our system than the frequent occurrence of this spectacle. It is almost a degradation

of the word to call a *curriculum* which so fails of its purpose an education. When we learn to attach more importance to the healthy condition of the mind, than to its contents, and by consequence make education to consist in an unhampered and pleasurable play of the mental energies, we shall be less likely to see it end with the school-training. So long as it remains natural to men to shun what has given them pain, and to have renewed recourse to what has given them pleasure, so long will the studies of youth be steadily pursued or speedily abandoned, according as they have been once found repulsive or delightful. To quote the language of Herbert Spencer, "The men to whom in boyhood information came in dreary tasks along with threats of punishment, and who were never led into habits of independent inquiry, are unlikely to be students in later years; while those to whom it came in the natural forms, at the proper times, and who remember its facts as not only interesting in themselves but as the occasion of a long series of gratifying successes, are likely to continue through life that *self-instruction* commenced in youth."

IV. *It should be remembered that grave moral issues are at stake upon the question whether the daily life of the pupil shall be one of pleasure or pain.* It is the true office of the teacher to open up to his pupils every available avenue of intellectual pleasure. We are not to take them by the collar and drag them a little way down those avenues, and then, dismissing them with a shove, cry, "There now, enjoy yourselves!" Education is not that. It is a leading forth — *e-duco* — "into green pastures and beside still waters," it should be. The course of some teachers with their dull pupils, reminds one of that physician in Molière. "He's a man of energy," cries his admirer, — "of energy. He likes to finish up his cases, and when a fellow has *got* to die, he puts him out of the world in a twinkling." So these hapless slow-brains, who it is assumed never can accomplish anything, are incontinently overwhelmed with encyclopædias, and miserably perish before they have time to remonstrate. The positive harm that a teacher who is thus incapable of appealing to the higher instincts of his scholars will do, is by no means inconsiderable; but the negative injury that he may work is incalculable, when we consider how permanent

is the influence of any teacher over the impressible minds of children; how inspiring and elevating that influence will be, if it is the constant source of pleasure, how chilling and deadening if it is associated mainly with painful or unhealthy activity. We may well believe that the indirect moral function of pleasure in education, is, if anything, more important than the direct intellectual one.

V. The fifth and final result of such an education, to which I venture to call your attention, is *the catholicity of culture which is thus only to be obtained.*

John Stuart Mill, in his inaugural address at St. Andrew's, four years ago, challenged the attention of all interested in education, by his sturdy assertion that the modern university should not take from, but rather, with time saved by improved methods of study, vastly add to the old *curriculum*. "I am astonished," he says, "at the strangely limited estimate of what it is possible for human beings to learn, resting on a tacit assumption that they are already as efficiently taught as they can be. It should be our aim, and a perfectly practicable one, not merely to know the one thing which is to be our principal occupation, as well as it can be known, but to do this and also to know something of all the great subjects of human interest. It is such a combination which gives an enlightened public a body of cultivated intellects, each taught by its attainments in its own province what real knowledge is, and knowing enough of other subjects to be able to discover who are those that know them better. That amount of knowledge is not lightly to be esteemed, which qualifies us for judging to whom we may have recourse for more."

In no place can more valuable service be rendered, in realizing this generous ideal of Mr. Mill, than in the common schools. In no unimportant sense the primary school is the university. It is a trite axiom that the value of education does not lie in the information communicated, but in the direction given, the enthusiasm awakened. *What we learn, matters little; how we learn to learn, matters a great deal.* If at the outset we can so minister to the child's curiosity that it shall never return fatigued and disgusted from any province of learning into which it has eagerly wandered;

if rather its feet may ever be tempted into new paths of delight, — its eyes made quick to see new fields of triumph, — be sure that for its later life no scheme of education can be made too broad, no system of culture too far-reaching. A man thus made will need an expansion of the verse of the old Roman poet, —

“Nihil humani a me alienum puto.”

Nothing in the universe will be without its interest to him.

Such an education is not an impossible thing. The intense distastes for certain studies, which we often meet, are not natural but artificial. From the fact that a boy hates grammar, it should not be inferred that an aptness for the study does not exist in him, but that the power of presenting it in such a light as to kindle his instinctive enthusiasm for it, as a manifestation of the beautiful, is not resident in the teacher or the book. Each scholar has modes of thought and feeling unlike those of any other, and a presentation eminently suited to A, may be as eminently unsuited to B. As with grammar, so with arithmetic, geometry, chemistry, etc. In fine, it must be maintained that in all these sciences exists the beautiful, and that by the natural constitution of his mind, no child can help enjoying them, provided only he be shown what Plato would call the *τὸ καλὸν* therein inherent.

Of course each person will have his favorite study. It is wisely provided that we all should have our specialties; but a man who is a mighty linguist ought to enjoy a dash now and then at pure mathematics or chemistry, as well as the dweller in the city, by choice, does his six weeks in the Adirondacks or on a yacht-cruise. Of course there must be much hard work in geometry and chemistry and Latin. So, too, as I vividly recollect, is there in playing horse on a hot summer day, especially when you are the horse and a big boy twice your size is the driver. It is jolly fun, though, if you only think so, — and if they are only taught how, children will feel in just the same way about their studies. What is wanted, is to make them conscious that there is just as much sport in brain work as in arm or leg work, — only of a different kind, — and that in order to get full pleasure out of life we must have a healthy abundance of both kinds.

A child's mind may be compared to a garden in which an

infinite variety of seeds is planted. The teacher's work is to pull up the weeds and to furnish the good seeds every facility for growth. If they are given each its requisite amount of sun and water and nourishment, they will take care of themselves, and that variety will grow best which is most perfectly adapted to the soil. But if the gardener tries to assist their upward growth by rudely laying hold and dragging them up into the sunlight, he will only succeed in dwarfing or destroying them, and in demonstrating his own incompetence. So, too, every nascent germ in a child's mind may be fully developed, — his education may be made integral, — but only with his will and pleasure, not against them. He must be made not merely to *know* but to *feel* that there is neither object nor power in the world without its interest; that all created things, so far as they are not impaired by sin, are in some way lovely and enjoyable; and then his education is no longer a constraining and cramping impress from without, but an eager and joyous development from within; drinking in all that will minister to its increase, as flowers drink in rain and sunlight.

For him who is thus educated, in the beautiful words of Whittier, we —

“ May pray the prayer of Plato old,
God make thee beautiful within;
And let thine eyes the good behold
In everything save sin!

Imagination held in check
To serve not rule thy poiséd mind,
Thy reason at the frown or beck
Of Conscience loose or bind.

No dreamer thou, but real all —
Strong manhood crowning vigorous youth;
Life made by duty epical
And rhythmic with the truth.

So shall that life the fruitage yield
Which trees of healing only give;
And green-leaved in the eternal fields
Of God, forever live.

ENGLISH GRAMMAR.

THE COMPARATIVE GRAMMAR OF THE PARTICIPIAL CLAUSE.

A CLAUSE whose predicate is in the participial mood, is, as we have seen, a participial clause. Thus, "In the event of *mercenaries being required*" (Mommesen's Rome). "The great difficulties of provisioning the army in a hostile country, were now to be obviated by the *fleet accompanying the army along the coast*" (*Ibid.*). "The winter passed *without Antiochus doing much more*" (*Ibid.*). "No less singular than the whole phenomenon of *this northern region emerging amidst the Greek and Phrygian nation*" (*Ibid.*). "Instances occurred of *one city attacking and pillaging another* merely to get money" (*Ibid.*). "In consequence of the *deep snow blocking up all the passes*" (*Ibid.*). "There is not a single instance of the *English clergy complaining* of the leniency of the laws upon this subject" (Leckey's History of Rationalism). "The accounts of *miracles taking place among them*" (*Ibid.*). "The mere fact of *pictures or images being destined* for worship, is likely to be rather prejudicial than otherwise to art" (*Ibid.*). "It accounts for *Italy having been the great assailant* of the Gothic style" (*Ibid.*). "One striking example of a *theologian following* in the traces of Origen" (*Ibid.*). "Some of the ancients had a notion *about fire being* the portal of the unseen world" (*Ibid.*). "A single instance of an *orthodox member of the church* expressing the opposite opinion" (*Ibid.*).

Such are illustrations of the use of the participial clause in English. These clauses occur constantly in the works of the most learned and elegant writers, both English and American.

They are found, likewise, in the Latin, the Greek, the French, and the German. Indeed, in the Latin and the Greek they are used much more frequently than they are in English. They appear under a great variety of forms, and in numerous logical connections, in almost every page of the best writers in these languages. Indeed, with Cicero and Tacitus and Xenophon the clause in question seems a *favorite* construction. In almost numberless instances when another construction could have been used (just as

well), so far as grammatical accuracy is concerned, this clause has been preferred.

Such being the fact, how important that the classical students should thoroughly understand this grammatical element! The *simplest*, though by no means the commonest, form of the participial clause, is the *present participial* form, used substantively; as "*Luna surgens videtur*"; the moon is seen *rising*, where it is used as subject; or "*Lunam surgentem videt*," sees the moon *rising*, where it is used as object. It should be noted here that "*surgens*" is not an adjective modifier, but a *genuine predicative*; for the sense is not "the *rising* moon is seen," but "*the moon* (is seen) *rising*," which conveys quite a different meaning. So likewise the participle "*surgentem*" in the second example has a real *predicative* force. So "*Graccham rempublicam vexantem videbamus*," we saw Gracchus *harassing the republic* (Cic.). "*Me proficiscentem* haud sane quis facile retraxeret," no one indeed can easily prevent *me* (*my*) *departing* (Cic.). "*Quem ad speluncam vadentem prohibere*," to prevent *whom* (*whose*) *coming to the cave* (Livy). So likewise the *perfect passive* participle is used as the predicative in this clause; as, "*Vidit obsessam Curiam*" saw the *Senate house besieged* (Tac.). Here the entire clause is used as object. Again, "*Angebant ingentis spiritus virum Sicilia Sardiniaque amissae*," *Sicily and Sardinia* ('s) *having been lost* greatly disturbed a man of very active temperament (Livy). "*Cum incalescente sole dispulsa nebula aperuisset diem*," when, the sun growing warm, *the mist* ('s) *having been dispersed*, cleared up the day (Livy). "*Utraque simul objecta res oculis animisque immobiles parumper eos defixit*," *each circumstance having been simultaneously addressed* to their eyes and their minds, rendered them for a little time immovable (Livy). In these examples we have the *perf. pass.* Again the *future pass. past* clause is very often used *adjunctively*, both with a *preposition* and by means of a *case-form*.

PARTICIPIAL CLAUSE USED AS SUBJECT.

The *future pass. participle* is used as the predicate in this clause, "*Attribuit nos trucidandos Cethego*," assigns *us* (*our*) *being slaughtered* to Cethegus (Cic.). Here the participial clause is the

object. "Gemini Servilio *media pugna tuenda data*" (lit.), *the centre ('s) being protected* was assigned to Geminus Servilius (Livy). Here we have it as *subject*. "Itaque ad remedium jam diu neque desideratum nec adhibitum *dictatorem dicendum* civitas confugit," therefore the state had recourse to a remedy, now for a long time neither adopted, nor needed, viz. (lit.) *a dictator ('s) being appointed*. Here one clause is used as an appositive.

It should be noted that the English has no exact equivalent for these *future pass.* participial clauses, as used in Latin. A literal rendering of them as above gives the sense very clearly, but can scarcely be regarded as elegant English. In translating into English we are often compelled to change the construction entirely, and use a *participial noun* with a phrase form. Thus, "Assigns *the slaughtering of us* (or our slaughter) to Cethegus." "Entrusts *the protecting* (or protection) *of the centre* to Geminus Servilius." The state had recourse to a remedy long since neither adopted nor needed, viz. *the appointing* (or appointment) *of a dictator*. But this even is not a *perfect* rendering of the *exact* thought as it in the Latin. There is in the original the element of *futurity* clearly expressed, which is only implied in the English; and besides there is considerable *force* gained in the Latin by this *compact method of statement*, which is always characteristic of the *participial clause* construction, and which is lost in the necessary change of construction in the English.

Let us now consider this clause in its *adjunctive* use in Latin. In this form it is used *very extensively*, and is manifestly a *favorite construction* with our best Latin authors. When a clause is used *adjunctively*, it will be remembered, as we have previously remarked, that the *relation* may be indicated either by a *preposition* or by the *case-form* of the subject of the clause, or sometimes by *both* (see article No. 10, p. 243).

Now the participial clause in Latin is used under a *very great variety of relations* thus indicated, that is, either by a *preposition* governing *logically* the *entire* clause; by the *case-form* of its subject, equally controlling the logical relationship of the *entire* clause, or by both. Hence, a *pres. act. part. clause* may be thus used; as,

"*De sene alteri seculo prospiciente*," concerning an old man ('s) looking forward to a future age (Cic.).

Here the preposition "*de*" governs grammatically "*sene*"; logically, the *entire* clause. "*Anceps terror circumstabas, et e navibus tanta vi, armatorum in terram evadente, et ab tergo improvisa premente acie*." A twofold terror struck them, occasioned on the one hand *by so great a multitude of armed men landing upon the shore*, and on the other, *by the enemy's line advancing suddenly upon the rear* (Livy). Here the relationship of "cause" is indicated by the *Abl.* case-form, which latter, though confined grammatically to the subject only of this clause, *logically* marks the relation of the *entire* clause. So, by an *Abl.* case-form, this clause may be made to hold to other elements the relation of "*means*," *condition*, *concession*, *attendant circumstance*, *time*, *specification*, etc.

"*Tarquinio regnante*," in the reign of Tarquin (Cic.). *Time*. "*Flaminius, qui nec quieto quidem hoste ipse quieturus erat*," Flaminius who, *the enemy even being quiet* (even though the enemy, etc.), would not have kept still (Liv.). *Concession*. "*Ante me consulem*," before me (my) being consul (Cic.). *Time antecedent*. The Latin verb "*to be*" having no present participle. It is therefore implied in the above.

Again, the *perf. pass. part.* clause may be used *adjunctively*. "*Ante urbem conditam*," before the city ('s) having been founded (Cic.). "*Post Christum natum*," after Christ ('s) having been born (Tac.). "*Canopum condidere Spartani ob sepultum illic rectorem navis Canopum*," the Spartans founded Canopus on account of Canopus the helmsman of their ship having been buried there (Livy). "*Queritur de Milone per vim expulso*," complains about Milo ('s) having been expelled by force (Cic.). "*Pariter cum capta Thala*," at the same time with Thala ('s) having been captured, (= as soon as Thala was captured (Sall.). "*Inter haec paratu atque decreta*," in the midst of these things having been prepared and decreed (Sall.). "*Ab condita urbe ad liberatam*," (lit.) from the city ('s) having been founded to its having been freed" (Livy). "*Post ignem aetheria domo subductum*," after fire ('s) having been brought down from its celestial home (Horace). "*De praelio facto audiebatur*," there was a

report about a battle having been fought (Sall.). "*Ob receptum Hannibalem*;" on account of Hannibal ('s) having been received (Livy).

So also when the relation is expressed by the *case-form* of the subject. Thus by a GEN. "*Nunquam suscepti negotii eum pertaesum est*," he was never offended at the business having been undertaken (Cic.). "*Hac oratione habita concilium dimissit*," at this speech having been delivered (i. e. at the time of the close of this speech), he dismissed the assembly (Caes.). "*Confirmatur amor beneficio accepto*," love is strengthened by a kindness having been received (Cic.). "*Erat juvenis penes quem perfecti hujusce belli laus est*," there was a young man, with whom was the glory of this war having been finished (=of having finished this war) (Livy).

Again, the *future pass. participial* clause is very often used adjunctively, the relation being expressed sometimes by a preposition, and sometimes by the *case-form* of the subject, "*De imperatore ad id bellum delegendo*"; concerning a commander ('s) being chosen (i. e. in the future) (Cic.). "*Ad castra facienda*; for a camp ('s) being made (Cic.). "*Ea nos religione in privato P. Lentulo puniendo liberaremur*," we shall be freed from that scruple in the matter of P. Lentulus being punished (Cic.). "*Occasionem sibi ad occupandam Asiam ablatam esse arbitratur*," thinks an opportunity has been afforded him for Asia ('s) being occupied (Cic.).

So with a *case-form* expressing the relation. "*Immolanda Iphigenia trustis calchis esset*." Calchis was sad at Iphigenia ('s) being sacrificed (i. e. at the prospect of her being sacrificed). "*Causa sui expurgandi*," for the purpose of himself (his) being acquitted (Cic.). "*Dum consul placandis Romae dis habendoque dilectu dat operam*," whilst the consul is giving his attention to the gods being appeased at Rome, and to a levy ('s) being held (Livy). "*Consilia urbis delendae*," plans (of) for the city ('s) being destroyed (Cic.). "*Firmandae valetudini*," for his health ('s) being restored (Cic.).

Occasionally the predicate of a part. clause is a *future active* participle. When this is the case, the clause is always used adjunctively. "*Rex opum non nisi migraturo examine foras procedit*," the king bee does not go abroad unless at (the time of)

the swarm ('s) being about to migrate (i. e. except when the swarm is about to migrate (Plin.). *Caesere venturo diem redde* (Mart.).*

Such, then, are the forms and uses of participial clause in Latin. The predicative participle may be *any one of the four participles used in Latin*. Of these the *pres. act.* and the *fut. pass.* are used most frequently, the *perf. pass.* less, and the *fut. act.* only quite rarely. In the examples given above, we have illustrations of this clause used *substantively*, *adverbially*, and *adjectively*. When used substantively, it may perform the office of subject, of object, of appositive, and of adjunct. When used *adverbially*, it is always adjunctive in form, and is used to indicate almost all the adverbial conceptions, viz., Time, Cause, Purpose, Condition, Concession, Means, Circumstance, Specification, etc. Indeed, all these ideas are expressed by this clause in the examples given above.

In an article published in the *Teacher* some months since, Mr. Joseph W. Allen, author of *Allen's Latin Grammar*, made the following remark:—

"Another case in which the same principle is a great help to clearness and simplicity of statement, is that curious usage which we call the 'gerundive,' in which the governing participle agrees in gender, number, and case with the word it appears to govern,—or, as I should say, is *attracted* into the gender, number, and case of the word it really governs. Some grammarians, in attempting to explain such a phrase as '*urbis delendæ causâ*,' take the extremely odd and roundabout method, of saying that here *urbis* is governed by *causâ*, *delendæ* being a future passive participle, implying necessity or duty; so that, literally rendered, it would be, 'for the sake of the city [which is] to be destroyed!' Now this is as far as possible from the real meaning of the words. It is *for the sake of destroying*; not for the sake of the city, but for *destroying it*. Clearly, the original form is the gerund, or verbal noun, -- which

* In the English translations of the participial clauses in Latin quoted above, we have given the *exact literal* rendering in English, in point of construction. The *possessive* case-form of the *subject* of these clauses has been indicated in parentheses, not because such is the best English or even the *true* English construction, as is manifest from the English examples given at the beginning of this article; but simply to indicate the sense more clearly in those cases where the English would choose, for the sake of perspicuity, another construction entirely.

in Plautus, in all its cases, including the nominative, may govern a direct object in the accusative, as in the phrase ‘*agitandum est vigilias*.’ Only, in the course of developing and softening the language, it soon became intolerable to the ear to allow two words, so closely joined, to be of different gender, number, and case; and, instead of *urbem delendi*, we have *urbis delendæ*, as above,—instead of *agitandum est vigilias*, *agitandæ sunt vigilie*; evidently a sort of compromise, in which one word parts with its case, in exchange for the other’s gender, etc., because it was pleasanter to the ear that had to hear them,—and for no other or better reason.” — *Mass. Teacher*, June, 1869, p. 210.

We do not at all agree with Mr. Allen. We believe that, in the example quoted,—“*urbis delendæ causa*,”—*grammatically* *urbis* is in the genitive after *causa*, according to the regular rule for one noun limiting another noun, denoting a different person or thing; and that *delendæ* agrees in *gender*, *number*, and *case* with its noun *urbis*, according to the regular rule for grammatical concord between participles and nouns. We do not think that the participle is “*attracted into the gender and number and case of the word it really governs*” at all; for it governs no word, either grammatically or logically; on the contrary, its *case-form*, *gender-form*, and *number-form* are determined entirely by *urbis*; nor is there any “*curious usage*” in this, since it is in strict conformity with the principles of Latin syntax that participles should agree in the particulars mentioned with the *nouns with which they are construed*. Again, we belong to that class of grammarians who “*attempt to explain*” the *grammatical* situation of this passage, “*by saying* that here *urbis* is governed by *causa*,” and we believe that the class of grammarians who would thus dispose of *urbis* is, to say the least, *very large*! We do not at all believe, however, “that literally rendered it would be ‘*for the sake of the city, (which is to be destroyed,*’ ” as many grammarians do indeed render it; nor do we believe that “clearly, the original form is a gerund or a verbal noun,” and that the true rendering is, “for the sake of destroying the city.” Moreover, we do not believe that there has been a formal “*compromise*” between these constructions, whereby “one word parts with its case in exchange for the other’s gender, etc.” We do believe, on the contrary, that this construction had its

origin precisely as many other Latin constructions have had their origin, viz., in the necessities of those who used the Latin tongue. The Romans found in this method of expression, in certain connections, that which, with more of rhetorical force or with more of real accuracy, indicated their thought.

There are synonymous *constructions* in language as well as synonymous words. But synonymous constructions, like synonymous terms, are by no means precisely *identical* in signification, nor interchangeable in use.

An elegant writer never feels that a synonyme of the word he has used, will do as well in a given case as the word he has chosen. There is a shade of difference in the meaning of all synonymes, and it is the proper choice of words, when there are these shades of meaning, that, among other things, distinguishes an accurate writer from a careless one.

Precisely so there are *synonymous constructions* in language, and the proper choice of these in a given connection, indicates the character of a writer. Various things are to be taken into consideration, as brevity, euphony, rhetorical force and beauty, and exact accuracy of statement. Hence the construction to be used in a given case, will, in the hands of a good writer, be chosen with reference to these qualities. Thus a writer will say "*Video lunam surgere*," or "*Video lunam surgentem*," as best suits his exact thoughts and his rhetorical taste. So a writer, and for the same reason, will say either "*post urbem conditam*" (lit.), after the city ('s) having been built; or "*postquam urbs condita est*," after the city was built; or "*post urbis conditum*," after the building of the city. But these constructions must not be regarded as perfectly *interchangeable*. The writer feels that there is a substantial difference in them, in some one or perhaps in all of the particulars above mentioned, and consequently makes a selection, suited to his thought and his taste.

In this same way a writer may say "*causa urbem delendi*," for the purpose of destroying the city; or "*causa urbis deletionis*," for the purpose of the destruction of the city; or "*ad urbem delendum*," for destroying the city; or "*ad urbem delendam*" (lit.), for the city ('s) being destroyed; or "*causa urbis delendæ*"

(lit.), for the purpose of the city ('s) being destroyed; or "*ut urbis deleatur*," that the city might be destroyed, or (after a verb of motion) "*urbem deletum*," to destroy the city, etc. All these may be termed synonymous constructions, but they have each a somewhat different force, and must not be confounded in translation.

We say then that so far from the two constructions in question having really run together, by a kind of *mutual concession* having reference to euphony ("*because it was pleasanter to the ear that had to hear them and for no other reason*"), we believe that the whole tendency of the language is the exact reverse, viz., to keep them decidedly distinct, and this because of their great value, as synonymous logical elements, furnishing the writer a *choice* of construction, and thus enabling him to improve his rhetoric, beautify his style, and express with greater nicety his precise thought.

What should we think of a teacher of the English language, who should declare to his French or German pupil, that "*aggravate*," "*irritate*," "*provoke*," "*tantalize*," "*exasperate*," etc., all have precisely the same meaning in our language, and that they are therefore used interchangeably, — the only basis of choice being the word which seems "*pleasanter to the ear!*"

Should we not refer such an instructor to Crabbe's English Synonyms, and bid him study more carefully the lexicography of these terms.

We say then, that, in our view, in the example "*causa urbis delendæ*," as a matter of *grammar*, *urbis* is in the genitive governed by *causa* (regular rule); and that *delendæ* is a future passive participle agreeing with *urbis* in gender, number, and case (regular rule); again, that considered *logically*, *causa* is limited by "*urbis delendæ*," a participial clause, whose subject is *urbis*, and whose predicate is *delendæ*, and the literal translation of which is (not "*to be destroyed*" making it an infinitive) "*of the city ('s) being destroyed*"; thus, with *causa*, *for the purpose of the city's being destroyed*."

OREAD.

OPENING OF THE MONT CENIS TUNNEL.

THE tunnel was commenced on the 15th of August, 1857. The two points at which it was determined to begin the boring were two wretched little Alpine villages, Bardonnecchia and Fourneaux, the former on the Italian, the latter on the French side of Mont Fréjus, the tunnel being nearly pierced under the above-named mountain, and not, as common report would have it, beneath Mont Cenis.

It may be of interest to present the reader with the account given by an eye-witness, M. Génési, of the meeting of the workmen last winter in the depths of the earth, more than five thousand feet beneath the summit of Mont Fréjus. "On the 6th of November, 1870," says M. Génési, "I was on my regular round of inspection as usual, when I fancied I heard through the rocks the noise of the explosion of the mines on the Bardonnecchia side. I sent a despatch to discover if the hours agreed. They did, and then there could be no longer any doubt we were nearing the goal. Each following day the explosions were to be heard more and more distinctly. At the beginning of December we heard quite clearly the blows of the perforators against the rocks. Then we vaguely heard the sound of voices. But were we going to meet at the same level and in the same axis? For three days and three nights engineers, foremen, and heads of gangs never left the tunnel. The engineers Borelly and Boni directed the works on the Bardonnecchia side, M. Copello on that of Fourneaux. We could not eat or sleep; every one was in a state of fever. At length, on the morning of the 26th December, the rock fell in near the roof. The breach was made, and we could see each other and shake hands. The same evening the hole was clear, — the last obstacle, — and the mountain was pierced, our work was done. What a rejoicing we had! In spite of the war, the cheers of scientific Europe came to find us in the entrails of our mountain when the happy termination of our enterprise became known. The two axes met almost exactly; there was barely half a yard error. The level on our side was only sixty centimetres (less

than three-quarters of a yard) too high. But after thirteen years of continual work, who could even hope for so perfect a result? We placed at the point of junction an inscription on a marble tablet, commemorative of the happy event."

How was this happy event brought about? For the variation in less than a yard in more than 13,000 is surely one of the triumphs of modern engineering skill. We cannot do better than borrow the description of the method pursued given by Mr. Fras. Kossuth, one of the Royal Commissioners of Italian railways: "The observatories placed at the two entrances to the tunnel were used for the necessary observations, and each observatory contained an instrument constructed for the purpose. This instrument was placed on a pedestal of masonry, the top of which was covered with a horizontal slab of marble, having engraved upon its surface two intersecting lines marking a point, which was exactly in the vertical plane containing the axis of the tunnel. The instrument was formed of two supports fixed on a tripod, having a delicate screw adjustment. The telescope was similar to that of a theodolite, provided with cross webs and strongly illuminated by the light from a lantern, concentrated by a lens, and projected upon the cross webs. In using this instrument in checking the axis of the gallery at the northern entrance, for example, after having proved precisely that the vertical flame, corresponding with the point of intersection of the lines upon the slab, also passed through the centre of the instrument, a visual line was then conveyed to the station at Lachalle (on the mountain), and on the instrument being lowered the required number of points could be fixed in the axis of the tunnel. In executing such an operation it was necessary that the tunnel should be free from smoke or vapor. The point of collimation was a plummet suspended from the roof of the tunnel by means of an iron rectangular frame, in one side of which a number of notches were cut, and the plummet was shifted from notch to notch, in accordance with the signals of the operator at the observatory. These signals were given to the man whose business it was to adjust the plummet by means of a telegraph or a horn. The former was found invaluable throughout all these operations. At the Bardonnecchia entrance the instrument employed in

setting out the axis of the tunnel was similar to the one already described, with the exception that it was mounted on a little carriage, resting on vertical columns that were erected at distances of five hundred metres apart in the axis of the tunnel. By the help of the carriage the theodolite was first placed on the centre line approximately. It was then brought exactly into line by a fine adjustment screw, which moved the eye-piece without shifting the carriage. In order to understand more clearly the method of operating the instrument the mode of proceeding may be described. In setting out a prolongation of the centre line of the tunnel, the instrument was placed upon the last column but one; a light was stationed upon the last column, and exactly in its centre, and five hundred metres ahead a trestle-frame was placed across the tunnel. Upon the horizontal bar of this trestle several notches were cut, against which a light was placed and fixed with proper adjusting screws. The observer standing at the instrument caused the light to move upon the trestle frame until it was brought into an exact line with the instrument and the first light, and then the centre of the light was projected with a plummet. In this way the exact centre was found. By a repetition of similar operations the vertical plane containing the axis of the tunnel was laid out by a series of plummet lines. During the intervals that elapsed between consecutive operations with the instrument, the plummets were found to be sufficient for maintaining the direction in making the excavation. To maintain the proper gradients in the tunnel it was necessary at intervals to establish fixed levels, deducing them by direct levelling from standard bench marks placed at short distances from the entrances. The fixed level marks in the inside of the tunnel are made upon stone pillars placed at intervals of twenty-five metres, and to these were referred the various points in setting out the gradients."

There will be two lines of rail in the tunnel. The vault itself will be six metres high and eight metres wide. The tunnel will be walled in along its whole length, and the lime rock will be nowhere exposed. The thickness of the internal masonry forming the tube is from half a yard to a yard and more according to circumstances. On the French side the masonry cost on the average 1,300 francs

the square metre. On the Italian side only 1,000 francs. The tunnel is wonderfully dry in comparison with many smaller works. There is only one subterranean spring of any importance in it. A water course, or rather aqueduct, has been constructed beneath the permanent way, in order to carry off any water which might drain into the tunnel.

Much has been said about the heat in the tunnel. All accounts agree that it is not excessive, and a recent French visitor to the tunnel gives the following figures:—At the entrance, 54 deg. Fahrenheit; at the telegraph station inside, 76 deg. Fahrenheit; the average temperature being about 65 deg. Fahrenheit. — *London Daily News*.

EDUCATIONAL VENEERING.

VENEERING is a great art. It makes things "go so much farther," and there is nothing an economist likes so much as to make things hold out. Our ancestors were so foolish as to build solid mahogany tables, bureaux, and sideboards. We know better. We have found out that a piece of wood a sixteenth of an inch thick will transform the commonest wood into mahogany or rosewood. And so the honest old tables and sideboards have given place to sleek veneered ones, which look just as well.

A monument should be built to the man who discovered this wonderful art. For its applications are so numerous. The crockery men sell imitation china; they have learned the art of veneering. The rogue veneers himself with the dress and manners of a gentleman. The cook veneers her dishes. The shaky broker veneers his credit by keeping up appearances. The parson, alas! sometimes veneers his sermon with thin layers of learning. The doctor veneers his conversation with sounding phrases. The politician veneers his thieving by thin patriotism. The fortune-hunter veneers his cupidity with professions of love. What a wonderful art it is! How bad we should feel if the veneering were taken off, and all our purposes, acquirements, and pretension appeared the naked pine and poplar that they are!

But when it comes to education, we wish veneering had never

been invented. And now that George and Maria are about to begin school, let us enter our protest against the veneering establishments. There are schools for boys, and hundreds of schools for girls, where the whole business transacted is the putting on of a thin layer of outward appearances. Everything is taught from a compend. History is boiled down to a strong decoction of facts and dates, and Ann Matilda is required to swallow it "There were five thousand on one side, commanded by Gen. Brown. There were seven thousand on the other, commanded by Gen. Smith. Gen. Smith was surprised on Sunday morning, and driven back with a loss of five hundred men and three pieces of artillery." This Ann Matilda, and Ann Matilda's parents, and Ann Matilda's friends fondly believe is history. It is paid for as history, labelled history, and must be history. But whatever there is of philosophy, poetry, of culture, of mental discipline in history is gone. This desiccated extract has no nourishment whatever. Of the peculiarities of race, of the domestic life, of the underlying causes of history, Ann Matilda learns nothing. She has swallowed a register, a gazetteer, but not a history. But she has passed her examination and "graduated." Her education is all right. It has the seal of the proper authorities on it, and she can go in peace.

English literature is worse taught than history. It is a thing that cannot be learned from a compend. The very essence of the highest culture, for people who speak the English language, is in English literature. But no one can learn English literature at second-hand. A good, thorough knowledge of the authors themselves in their works is the only road to this culture. And all short cuts are only delusions.

The great mistake in the education of girls, and for that matter of boys is that they master nothing. A little here, and a little there, is the plan. The object seems to be to enable the pupil to give a long catalogue of things studied. And for this charlatan-ism the parents who demand it are chiefly responsible. There are schools which are thorough. It is not for us to point them out, but for parents to be sure that they are not caught with the chaff of an empty pretence. In education, veneering will peel off — *Hearth and Home.*

THE TEACHER TAUGHT.

O'ER wayward children wouldst thou hold firm rule,
 And sun thee in the light of happy faces :
 Love, Hope, and Patience — these must be the graces,
 And in thy own heart let them first keep school !
 For, as old Atlas on his broad neck places
 Heaven's starry globe, and there sustains it, so
 Do these upbear the little world below
 Of education — Patience, Hope and Love !
 Methinks I see them grouped in seemly show, —
 The straitened arms upraised, — the palms aslope, —
 And robes that, touching, as adown they flow,
 Distinctly blend, like snow embossed in snow.
 O part them never ! If Hope prostrate lie,
 Love, too, will sink and die.
 But Love is subtle ; and will proof derive,
 From her own Life, that Hope is yet alive,
 And bending o'er, with soul-transfusing eyes,
 And the soft murmurs of the mother-dove,
 Woos back the fleeting spirit, and half supplies.
 Thus Love repays to Hope what Hope first gave to Love !
 Yet haply there will come a weary day,
 When, overtaken, at length,
 Both Love and Hope beneath the load give way,
 Then, with a statue's smile, a statue's strength,
 Stands the mute sister, Patience, — nothing loath ;
 And, both supporting, does the work of both.

Samuel T. Coleridge.

GOOD OLD SAXON.

I LOVE the racy English of old times,
 Before its Latin softness o'er it crept,
 When mighty scalds were valliant in their rhymes,
 Nor tamely o'er the tinkling harp-strings swept,
 As though the spirit of their fathers slept,
 Or spoke in vowelled whispers among lines.
 Our native rough-hewn words are less inept
 Than daintier speech flung off in silver chimes.
 Our tongue should have a likeness of the land, —
 A smack of crag and torrent, tarn and glen,
 In nouns and verbs that shepherds understand,
 Meet for the use of hardy fighting men,
 Brief and sonorous, till we seem to stand
 And hear brave Geoffrey Chaucer rhyme again.

St. Paul's.

Editor's Department.

VALEDICTORY.

My connection with the *Massachusetts Teacher* ceases with the present number. During the past twenty years or more, I have in some capacity or other given it, at various times, my poor services, and have found much pleasure in doing what I could to advance its interests. The time I have spent upon committees in consultation in regard to it, in negotiations with parties in reference to its ownership and publication, in writing for its pages, in the performance of editorial duties, is no insignificant fraction of the above period. Much of this work could have been done better by others, but unfortunately those others were not free to do it.

Now that my engagements forbid my longer continuance in editorial labor, I wish to express my sincere thanks to the readers of the *Teacher* for their indulgence, to those with whom I have been associated in its management for their courtesy, and especially to those who have, either with or without solicitation, contributed to its pages. I take with me only pleasant memories and warm friendships. I leave my best wishes for my successor, and an earnest desire for the prosperity of the *Teacher*, and the advancement of educational interests.

JOHN KNEELAND.

THE TEACHER FOR 1872.

THE *Teacher* for the coming year will be under the editorial management of Mr. W. E. EATON, Principal of the Harvard School, Charlestown. He has for some years been one of its contributing editors, and has in other fields gained editorial experience. He is an able teacher and enthusiastic worker. His incisive pen will impart a new interest to educational topics, and his persuasive mis-sives will stir up others to work with him in raising the *Teacher* to a high standard as an educational journal. Some changes are contemplated in its appearance, and in its arrangements. It will greet its readers with a new face, and will endeavor in all respects to meet their wants. May they give it a warm welcome and an efficient support.

PROF. TYNDALL ON ENGLISH GRAMMAR.

[Our friend, Elbridge Smith, Head-Master of the Dorchester High School, believes in English grammar, notwithstanding all that has been said or written against it. At his suggestion we give Prof. Tyndall's testimony in regard to its worth as a study, in "displayed" form.]

"If I except discussions on the comparative merits of Popery and Protestantism, *English grammar* was the most important discipline of my boyhood. The piercing through the involved and inverted sentences of *Paradise Lost*; the linking of the verb to its often distant nominative, of the relative to its distant antecedent, of the agent to the object of the transitive verb, of the preposition to the noun or pronoun which it governed, — the study of variations in mood and tense, the transformations often necessary to bring out the true grammatical structure of a sentence, — all this was to my young mind a DISCIPLINE OF THE HIGHEST VALUE, and, indeed, a source of UNFLAGGING DELIGHT. How I rejoiced when I found a great author tripping, and was fairly able to pin him to a corner from which there was no escaping. I speak thus of English because it was of *real value* to me. I do not speak of other languages, because their educational value for me was almost insensible. But knowing the value of English so well, I should be the last to deny, or even to doubt, the high discipline involved in the proper study of Latin and Greek."

MEETING OF SCHOOL SUPERINTENDENTS.

[We take the following report from the Educational Department of the *New England Homestead*. Mr. M. C. Stebbins, the editor of that Department, in the next issue of the paper writes very judiciously in favor of the "Marking System," which the superintendents so generally condemn. Had we room, we would transfer his article, also, to our pages.]

THE New England Association of Superintendents of Public Schools, held their annual meeting October 19th, in the lecture room of the Girls' High and Normal School, Boston. The meeting was not large, nor has there ever been more than twenty-five or thirty in attendance. An able paper was read by A. D. Small, of Newport, R. I., upon "The General Reading of our Scholars," and an animated discussion followed. It was assumed by the writer that our scholars *do* read, that they *will* read, and that the practical question is, "Who

shall direct their reading?"—that if the teachers do not do this, in many cases, it will not be done at all, and that the reading will be of no advantage, or positively injurious. But if the teacher undertakes to mark out a course of reading, what sort of books shall he select? Shall it be the same course for all his pupils, or different, according as the tastes and habits of thought of the pupils differ? Regular courses were recommended upon subjects kindred to those pursued by the pupils; and some light rewards to secure this reading, were also favored. But to carry out a varied programme, to be able to name authors, books and chapters of books, bearing upon the various subjects, requires, in some cases, more knowledge of books and more leisure for reading than teachers have. The difficult question, in towns where there are no public libraries, is, How shall we obtain the books? School committees, though disposed to be generous, could not furnish all the books for such reading, though they could furnish books of reference.

In the discussion it was said that the pupils could be encouraged in a course of reading by being required to embody in their compositions the result of their reading; and an instance was given of the great change which had been wrought in one of the schools of Boston, and the great interest that had been awakened in the composition exercise by such a course.

Another excellent paper upon "The Marking System," was read by Mr. Emerson, of Newton. The writer took strong ground against any system of expressing numerically, either by self-reporting or otherwise, the deportment or the quality of the recitations of the pupils. The effect of marking recitations was injurious to the pupil, leading him to study under an unnatural excitement or for the marks, making the over-sensitive and those who needed no artificial stimulants, too much excited, and tending to discourage the poorer scholars, and to make more indifferent the idlers. To the teacher, also, was the marking an injury. It took off his attention from the subject of his lesson, it trammelled him in the mode of conducting the recitation, and wearied him in his effort to do exact justice to each pupil.

In the discussion that followed, nothing was said in favor of the marking system. Its evils were acknowledged, and its good lightly esteemed. A teacher, in reply to the question why he practised marking, said he was not partial to it for himself, but he was sometimes asked of the standing of his pupils, and he could not always tell how they did stand relatively, unless he marked them; that only the day before he was asked the relative standing of two girls in his school, and he found that one stood two one-hundredths higher than the other, and but for his marking, he would not have known it.

The association was quite unanimous in passing this resolution:—

Resolved, That we consider the practice of marking the merits of daily recitations objectionable, and recommend its discontinuance.

There was not as great unanimity in recommending the marking of frequent written examinations.

Daniel Leach, of Providence, R. I., was chosen President, and Dr. W. W. Waterman, of Taunton, Secretary.

SPELLING EXERCISE.

WE have found in several of our exchanges a list of words said to have been presented at a teachers' meeting in Newburgh, N. Y. Ninety-four teachers were present. The man who came out ahead spelt forty-eight out of the fifty rightly; the man who brought up the rear, only five. The average of correct spelling was about *forty-three* per cent. We do not blame the teachers for their failures, — especially as, in no instance in which we have taken pains to look over the list as printed in the various papers and journals, have we found the words all spelled correctly. In one instance there were ten mistakes. The copy which we give the printer, clipped from one of our best journals, has five mistakes, and one of these, in the word "cachinnation," is repeated. We believe in our printer's ability to print them correctly.

Intermittent, heresy, bilious, coercion, ecstasy, clarinet, surcingle, paralyze, licorice, trafficking, suspicion, ellipsis, apostasy, delectable, mortgaging, singeing, skilfully, (skillfully, *Webster*), subpoena, allegeable, ignitable, phosphorescence, jeopardize, ebullition, aeronautic, sibylline, cachinnation, vacillation, bacchanalian, fascination, crystallize, catechise, trisyllable, tyrannize, apologize, gauging, saccharine, hemorrhage, rendezvous, Fahrenheit, Galilean, Sadducee, erysipelas, hieroglyphics, apocrypha, daguerrotype, (daguerreotype, *Webster*) idiosyncrasy, canaille, cannibal, mignonette, kaleidoscope.

EXTRACTS FROM THE BY-LAWS OF THE PUBLISHERS' BOARD OF TRADE.

I. During the year ending July 1, 1872, no school-books shall be introduced into any schools, public or private, or any educational institution whatever, at a less rate than one-half the published retail prices, for cash, to be actually paid within ninety days after the books are delivered. Collegiate Text-Books, including Ancient and Modern Languages, English Literature, Mathematics, above the grade of Algebra, and Moral, Mental, or Political Science, shall not be introduced at less rates than forty per cent net from retail.

V. No longer time than ninety days shall be granted for making and completing introductions. . . .

XVII. Travelling agents may be employed, not to exceed ten in number, by each house privileged to introduce books upon the terms indicated in By-Laws I. and V.

XIX. No travelling agent shall be allowed to employ deputy or sub-agents; but all agents shall be employed by, and be directly responsible to, their respective houses.

XX. No bookseller, teacher, school-officer, or any other person, shall be employed as *local agent* to work for the adoption and introduction of school-books.

INTELLIGENCE.

L. H. BUCKINGHAM, L. Z. COLLINS, and JOSEPH W. KEENE have been appointed sub-masters in the English High School, Boston.

AUGUSTA C. KIMBALL, ELLEN O. SWAIN, MARY E. HOLBROOK, and CHARLOTTE E. WHEELER have been appointed assistants in the Girls' High and Normal School, Boston.

EDNA F. CALDER has been appointed assistant in the Roxbury High School, Boston, and J. FREDERICK STEIN, teacher of German.

ELLEN G. FISHER has been appointed assistant in the Dorchester High School, Boston.

CHARLES R. BROWN, who has been for seven years the principal of the Phillips School, Salem, has leave of absence for three months.

E. S. FRISBIE, principal of the Northampton High School, has resigned his position on account of ill health. Mr. Frisbie has been a very successful teacher, and formerly was at the head of the Amherst High School.

MONSON ACADEMY. This Institution, Rev. Charles Hammond, Principal, is shown by its late catalogue to be in flourishing condition. The Classical Department during the past year has numbered sixty-one male and forty-three female students; the English Department, fifty-one male and fifteen female; in all, one hundred and seventy students.

PROVIDENCE, R. I. The annual report of the School Committee, embodying the report of the Superintendent, Rev. Dannel Leach, the report on evening schools, and a full account of the dedication of the Hughes School-house, has been received. It is an interesting and suggestive document.

PENNSYLVANIA. The legislature of this State at its late session adopted the following act in regard to the change of school books:—

SECTION 1. Hereafter the board of directors of any district, the controllers in cities and boroughs, or any school superintendent, shall not order or make any change in the school-books or series of text-books used in any school under his or their superintendence, direction, or control, more than once in every period of three years, and any laws or parts of laws inconsistent herewith be and the same are hereby repealed.

SEC. 2. Any school director, controller, or superintendent who shall violate the provisions of this act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be sentenced by the court to pay a fine not exceeding two hundred dollars, and be deprived of his office.

BOOK NOTICES.

HARPER & BROTHERS, New York.

WE have received from A. WILLIAMS & Co., at the "old corner bookstore," 135 Washington Street, several valuable works from these publishers. That which is likely to attract the most attention from the educationists

and scientists is *THE EARTH*, or a descriptive history of the Life of the Globe, by *Élisée Reclus*. It was translated by the late *B. B. Woodward*, M. A., and edited by *Henry Woodward*, of the British Museum. The Harpers have brought it out in fine style, and will receive the thanks of the lovers of good and handsome books. Two hundred and thirty maps are inserted in the text, and there are, besides, twenty-three page maps printed in colors.

The work is the result of more than fifteen years' careful study, travel, and research, on the part of *M. Reclus*, who is one of the most able of French authors. It has already passed through two French editions, and must supersede other works of its kind, and for a time hold the first rank. The first part is devoted to the earth as a planet, and discusses the theories in regard to its formation. The second part describes the land surface, and enters into the various hypotheses concerning the distribution of land and water. Next, follows the circulation of water, its observed phenomena described in full. The last part deals with subterranean forces, and is descriptive of volcanoes and earthquakes. The work makes an octavo volume of nearly six hundred pages.

The general reader will be interested in the *LIFE AND LETTERS OF CATHERINE M. SEDGWICK*, edited by *Mary E. Dewey*. This is one of that class of books it does everybody good to read. It is the record of a rich and useful life, and reveals to us the real woman in her various moods. *Mrs. Frances Anne Kemble*, *Mrs. James S. Gibbons*, the *Rev. Dr. Dewey*, and *William C. Bryant*, pay their tribute to her memory.

HALLAM'S MIDDLE AGES, by *William Smith*, D. C. L., LL. D., in one volume, prepared for students' use, is a book that ought to be gladly welcomed. It is not an abridgment of *Hallam's* works, so much as it is a judicious arrangement of what were his final opinions upon the subjects discussed. The parts omitted are those which he had ceased to regard of value, and the modifications he had made in his "Supplemental Notes" have been incorporated into the text. So the work is quite complete in itself, and even more valuable to the student than the original volumes. *Dr. Smith* has added some important documents which will be of service to the student.

THOMAS HUNTER, A. M., President of the New York Normal College, is the author of a little work entitled *ELEMENTS OF PLANE GEOMETRY*, which seems to have some advantages over other elementary works of this kind. He commences with the problem rather than the theorem, and so proceeds with his subject as to give the pupil a clear understanding of geometrical reasoning and a knowledge of its applications. This book is worthy the attention of practical teachers. It presents in a small compass, and in an admirable manner, that portion of Geometry usually studied in our schools.

DOGS AND THEIR DOINGS, by *Rev. F. O. Morris*, B. A., will delight all lovers of dogs, and help everybody to love dogs who reads it. It is full of good and wonderful stories about dogs, and is finely illustrated. It is one of the handsomest books of the season. *Santa Claus* will be likely to put a good many of them in his pack.

HANNAH, by the author of "*John Halifax*," and *DURNTON ABBEY*, by *Thomas Adolphus Trollope*, are added to the Harpers' series of novels, and afford good light reading.

WOOLWORTH, AINSWORTH & CO., New York.

This enterprising firm gives us some school-books whose merits are well established, in new and improved editions.

CROSBY'S GREEK GRAMMAR for schools and colleges has undergone a careful revision. The tables are brought into more compact form, and a distinction of type aids the student in the analysis of forms. Latin analogies and references to the text of the grammar have been introduced, and other improvements made. The author's excellent system of "sentential analysis" has been added. As this system applies to any language, the examples are mainly English. This part has been published separately in pamphlet form, and will afford useful hints to teachers generally.

CROSBY'S COMPENDIOUS GREEK GRAMMAR is upon the same plan as the former, and contains the same excellences; — indeed, it is the same book with certain parts condensed, and the more theoretical parts omitted in order to bring the work into a smaller compass.

WILSON'S TREATISE ON PUNCTUATION is still the standard work. It has reached its twentieth edition. We have had upon our table for some years a copy of the eighth edition, which we shall be very willing to discard for this much handsomer volume.

ÆSTHETICS, or the Science of Beauty, by John Bascom, professor in Williams College, is a series of lectures aiming "to combine and present in a systematic form those facts and principles which constitute the department of taste." This work has received very favorable criticism. The present edition has received some additions, the result of further thought on the part of the author, and is therefore still better adapted to meet the student's wants.

BARTHOLOMEW'S DRAWING BOOKS have been, and are still very extensively used. They are the leading books in this vicinity. No. 1 of the new series is before us, and indicates that the publishers are not satisfied with what has been attained, but mean to keep up fully with the demands of the progressive part of the educational world. We wish they had given it a new and handsome cover. There certainly might be a closer connection between the cover of this book, and the subject of the book just noticed above.

CHARLES SCRIBNER & CO., New York.

The ILLUSTRATED LIBRARY OF WONDERS published by this firm has met with a deserved popularity. The Board of Education of Detroit have supplied each public school of that city with the whole series, twenty volumes. The publishers have now commenced a second series, of which the first volume, MOUNTAIN ADVENTURES, is now before us. Its thrilling narratives give a very vivid sense of the dangers attending mountain climbing. It is fully illustrated, like its predecessors.

THE INVASION OF FRANCE in 1814, from the French of M.M. Erckmann-Chatrian, is an interesting volume, and belongs to the series of historical novels by the same authors. The story is well told, and the reader gets a realizing sense of the events as they transpired, and the scenes described.

J. B. LIPPINCOTT & CO., Philadelphia.

From this firm comes the Second Book on ANALYTIC ANATOMY, PHYSIOLOGY AND HYGIENE, Human and Comparative, by Calvin Cutter, A. M., M.

D., designed for the class-room, and containing features that recommend it for general use in families. Each chapter is followed by a list of questions for an analytic examination, for a unific review, and for a synthetic review by topics. Dr. Cutter's previous works have been remarkably well received. This work is in some respects superior to its predecessors for general school use. It is well arranged, clear in style, and of moderate size.

THOMPSON, BIGELOW & BROWN, Boston.

Mrs. Cornelius comes in good time. Thanksgiving and Christmas make special demands upon *THE YOUNG HOUSEKEEPER'S FRIEND*. This book, however, is a good friend upon all occasions. It hits exactly the common want. The present edition contains such alterations and additions as the author's experience, and the experience of others, have suggested. Even old housekeepers find it invaluable.

LEE & SHEPARD, Boston.

This firm is constantly doing the children good service. *LITTLE PIECES FOR LITTLE SPEAKERS*, by Miss S. M. Priest, is an appropriate collection of poetical pieces,—just such as they will like. Mothers and teachers will find it of great assistance to them in their efforts to find pieces suitable for the children. It is a pretty volume, and handsomely illustrated.

THE MODEL SUNDAY SCHOOL SPEAKER, by Anna Monroe, is a collection of dialogues, addresses, and miscellaneous pieces, suitable for Sunday School exhibitions, monthly concerts, anniversaries, and the like.

THE RIGHT ONE, is another of the series of novels, by Marie Sophie Schwartz, translated from the Swedish by Selma Borg and Marie A. Brown. It is a good story.

These publishers send us, also, No. 1 of *HALF HOUR RECREATIONS IN POPULAR SCIENCE*. Numbers will be issued monthly, forming yearly volumes of twelve parts. Selections will be made from Tyndall, Proctor, Figuier, Mill, Spencer, Huxley, Lecky, Darwin, and other European scientists, and from American authors. The subscription price for twelve monthly parts sent post-paid, will be two dollars and fifty cents. The present number gives us "Strange Discoveries respecting the Aurora, and Recent Solar Researches," by Richard A. Proctor. We wish the publishers success in this attempt to furnish the people with scientific knowledge.

MISCELLANEOUS.

MASSACHUSETTS STATE ARMS. — It is stated that Algernon Sidney wrote in an album at Copenhagen this Latin couplet:

"Manus hæc inimica tyrannis,
Ense petit placidam sub libertate quietam."

The second line was taken as the motto of Massachusetts. The hand with the drawn sword symbolizes the first.

BOUCHET, THE NEGRO AT YALE. — The *Christian Union* says, the son of a well-known New Haven politician, whose name begins with B., is a freshman

at Yale, and was seated at the recitation near the colored student, Bouchet. Whereupon B., senior, wrote to one of the Professors, asking, as a personal favor, that he would change the young man's seat, as it was distasteful to him to sit so near a negro. The Professor wrote back that at present the students were ranged in alphabetical order, and it was not in his power to grant the favor; but "next term the desired change will be brought about, for, scholarship then being the criterion, Mr. Bouchet will be in the first division, and your son in the fourth."

A SMART SENTRY. — A Bavarian officer tells the following anecdote, vouching for its truth in every detail: One dark night a shot is fired by a sentinel of the outpost chain. Instantly they are all on the alert, thinking the French intended a surprise. The officer in command comes rushing on, and questions the sentinel who had fired the shot. "What made you shoot?" "A Frenchman was just going to steal in here on all-fours, and so I shot at him." "Did you challenge him; and what did he say?" "He could only answer, 'Oui, oui,' and so I fired at him." The ground was closely searched, the patrol walked up and down, and at last the "oui, oui" sayer was found. He was laid hold of with a shout of triumph, lifted on high, taken to the camp, and there eaten up as a delicious morsel. The "oui, oui" sayer was a fine fat hog.

THE ENGLISH ARMY. — Caleb Cushing says in *The Independent* that "it is notable that no true English army ever surrendered itself to a foreign enemy except in the United States, but that twice in the war of the Revolution, and once in the second war, an English general capitulated on the field of battle, and surrendered his forces to the arms of the United States. There is no parallel to this series of events in all the numerous military operations of England, in Europe, Asia, and Africa, from the time of William the Norman to that of Victoria."

IMPORTANT IF TRUE. — Stephen Pearl Andrews states that "the Absolutoid and Abstractoid Elementismus of Being echoes or reappears by analogy, within the Relatoid and Concretoid Elaborismus."

A TRICK OF THE TYPES. — *The Independent* says, there is no more modest and sensitive man than Rev. Dr. William R. Williams, the eminent Baptist divine. He recently published a charming little work, on the three parables in the fifteenth of Luke, the appropriate title of which was, "The Lost Sheep, the Lost Coin, and the Lost Son." Imagine the horrible feelings of the sensitive divine when he saw the typographical blunder of the *Christian Union*, which reviewed it under the titled of "The Lost Sheep, the Lost Cow, and the Lost Sow!"

THE CENTRE OF POPULATION, ACCORDING TO THE BOSTON TRAVELLER. — It is a singular fact that the centre of population in Massachusetts is at the intersection of Western Avenue, Beacon Street, and Brighton Avenue on the Back Bay. That is, a line running north and south and dividing the population of the State so that as many shall live to the east of it as to the west; and a line running east and west and dividing the population in like manner, so that as many shall live to the north of it as to the south, intersect each other at that precise point.

LABORATORY RHYMES from the *London Fun*.

Oh! come where the cyanides silently flow,
 And the carburets droop o'er the oxides below;
 Where the rays of potasslum lie white on the hill,
 And the song of the silicate never is still.

Come, oh, come!

Tumti, tum, tum!

Peroxide of soda, and urani-um!

While alcohol's liquid at thirty degrees,
 And no chemical change can affect manganese;
 While alkalies flourish and acids are free,
 My heart shall be constant, sweet science, to thee!

Yes, to thee!

Fiddledum dee!

Zinc, borax, and bismuth, and HO plus C.

AN AMERICAN CHARACTERISTIC. — A distinguished professor in one of our theological seminaries relates the following: Being in Germany, with a red-covered book in his hand, a German, supposing the book to be "Murray," asked in English if he was an Englishman? The professor replied in German that he was not. The conversation presently turned upon an object of architectural beauty near at hand, in the course of which the professor incidentally raised the question of its cost. "Sir," exclaimed the German, instantly, "you are an American!" "How do you know that?" rejoined the professor. "Sir," continued the German, striking an attitude, and assuming a tone of great solemnity, "upon the resurrection morn, when we stand before the Great White Throne, the first question of every American in the whole assembly will be 'How much did that cost?'" — *Congregationalist*.

THE VASSAR COLLEGE GRIDDLE. — The old griddle having become worn out by long and faithful service, its place has been supplied by a new one. It has the modest dimensions of ten feet by eight, and is said to have a carrying capacity of five hundred cakes.

A GOOD ANSWER. — A bright-eyed little fellow in one of the Brooklyn private schools having spelt a word, was asked by his teacher, "Are you willing to bet that you are right, Bennie?" The boy looked up with an air of astonishment and said, "I know I'm right, Miss V., but I never bet."

LOST TIME. — Lost wealth may be restored by industry; lost health regained by temperance; forgotten knowledge restored by study: alienated friendship smoothed into forgetfulness; even forfeited reputation recovered by penitence; but who ever again looked upon his vanished hours, recalled his slighted years, stamped them with wisdom, or effaced from Heaven's record the fearful blot of wasted time?

BE GOOD. — Be good, sweet maid, and let who will be clever: Do noble things, not dream them all day long; And so make life, death, and that vast forever, one grand sweet song. — *Kingsley*.

MR. FROUDE ON DARWINISM. — "It may be true — I, for one, care not if it be — that the descent of our mortal bodies may be traced through an ascending series to some glutinous jelly, formed on the rocks of the primeval ocean.

It is nothing to me how the Maker of me has been pleased to construct the organized substance which I call my body. It is mine, but not me. The intellectual spirit, being an essence, we believe to be an imperishable something engendered in us from a higher source."

STEP BY STEP. — He who travels over a continent must go inch by inch. He who writes a book must do it sentence by sentence. Life is made up of little things, little courtesies, little kindnesses, pleasant words, genial smiles, a friendly letter, good wishes, and good deeds. One in a million, once in a lifetime, may do a heroic action. But the little things that make up our life come every day and every hour. If we make the little events of life beautiful and good, then is the whole full of beauty and goodness.

THE OCEAN TELEGRAPH. — Here is a man sitting in a darkened room at Heart's Content. The ocean cable terminates here. A fine wire attached thereto is made to surround two small cores of soft iron. As the electric wave, produced by a few pieces of copper and zinc at Valentia, passes through the wire, these cores become magnetic enough to attract a light iron bar. A looking-glass, half an inch in diameter, is fixed on a bar of iron one-tenth of an inch square and half an inch long. On this tiny glass a lamp is made to glare so that its light is reflected on a tablet on the wall. The language of the cable is denoted by the shifting of this reflected light from side to side. Letter by letter is thus expressed in this fitting idiom in utter silence on the wall. There is no record made by the machinery except as the patient watcher calls out to a comrade the translated flashes as they come, and which he records. It seems a miracle of patience. Something of awe creeps over us as we see the evidences of a human touch three thousand miles away swaying that line of light. — *Journal of Chemistry.*

KILL THE BAD WEEDS. — I was once walking with a farmer through a beautiful field, when he chanced to see a tall thistle on the other side of the fence. In an instant he sprang over the fence, and cut it off close to the ground.

"Is that your field?" I asked.

"Oh, no," said the farmer, "but bad weeds don't care much for fences, and if I should leave that thistle to blossom in my neighbor's field, I should soon have plenty in my own." — *Selected.*

GOOD FROM LOSS. —

Why make we moan
For loss that doth enrich us yet,
With upward yearnings of regret?
Bleaker than unmossed stone
Our lives were but for this immortal gain
Of unstilled longing and inspiring pain!
As thrills of long hushed tone
Live in the viol, so our souls grow fine
With keen vibrations from the touch divine,
Of noble natures gone.

James Russell Lowell.

